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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/801,204 | 03/15/2004 | Boon Keat Tan | 70040131-1 | 3118 |

57299 7590 11/16/2009

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| EXAMINER | |
|---|---|
| NGUYEN, LUONG TRUNG | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2622 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 11/16/2009 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/801,204 | TAN ET AL. | |
| | Examiner | Art Unit | |
| | LUONG T. NGUYEN | 2622 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *07 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *9,11-16 and 18-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9,11-16 and 18-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 9, 11-16, 18-22 filed on 08/07/2009 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Objections*

2. Claims 13-15, 20-22 are objected to because of the following informalities:

Claim 13 (line 2), claim 20 (lines 1-2), "the multiplexer selects Red as the selected color" should be changed to --the multiplexer selects the Red output voltage as the selected color--.

Claim 14 (line 2), claim 21 (lines 1-2), "the multiplexer selects Green as the selected color" should be changed to --the multiplexer selects the Green output voltage as the selected color--.

Claim 15 (line 2), claim 22 (lines 1-2), "the multiplexer selects Blue as the selected color" should be changed to --the multiplexer selects the Blue output voltage as the selected color--.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 9, 11-16, 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kataoka (JP 03-139957) in view of Takashima (US 5,757,520).

Regarding claim 9, Kataoka disclose a sensor configured to sense a signal of light incident thereon, comprising:

a single dark color sensor circuit (photoelectric conversion element 103, see abstract, figure 1) comprising a dark photodetector configured to provide a dark photocurrent proportional to the current operating temperature, the dark color sensor circuit converting the dark photocurrent into a dark current offset voltage;

an amplifier (differential amplifier 106, see abstract, figure 1) configured to receive the selected color sensor output voltage and the dark current offset voltage and to adjust the selected color sensor output voltage using the dark current offset voltage to cancel the contribution of the dark current offset voltage in the selected color sensor output voltage according to the current operating temperature and thereby provide a color sensor output signal.

Kataoka fails to disclose the sensor is a color sensor comprising:

a Red color sensor circuit comprising a Red photodetector configured to receive incident light thereon and provide a Red photocurrent therefrom in response to the incident light, the Red color sensor circuit being configured to provide a Red output voltage indicative of a Red intensity of a Red spectrum included in the incident light as the Red intensity occurs under a current operating temperature;

a Green color sensor circuit comprising a Green photodetector configured to receive incident light thereon and provide a Green photocurrent therefrom in response to the incident

light, the Green color sensor circuit being configured to provide a Green output voltage indicative of a Green intensity of a Green spectrum included in the incident light as the Green intensity occurs under the current operating temperature;

a Blue color sensor circuit comprising a Blue photodetector configured to receive incident light thereon and provide a Blue photocurrent therefrom in response to the incident light the Blue color sensor circuit being configured to provide a Blue output voltage indicative of a Blue intensity of a Blue spectrum included in the incident light as the Blue intensity occurs under the current operating temperature;

a multiplexer configured to receive the Red, Green and Blue output voltages as inputs thereto and to select one of the Red, Green and Blue output voltages as a selected color sensor output voltage.

However, Takashima discloses a color linear image sensor, which includes R, G, B pixels, the R, G, and B color signals are selected as output color signal by output distribution circuit 5 (figure 1, column 6, lines 29-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device in Kataoka by the teaching of Takashima in order to provide an image processing using such a color linear image sensor (column 4, lines 8-10).

Regarding claim 11, Kataoka discloses the amplifier is a differential amplifier (differential amplifier 106, see abstract, figure 1).

Regarding claim 12, Kataoka discloses the amplifier is a transimpedance amplifier (differential amplifier 106, see abstract, figure 1).

Regarding claim 13, Takashima discloses the multiplexer selects Red as the selected color sensor output voltage (figure 1, column 6, lines 29-67).

Regarding claim 14, Takashima discloses the multiplexer selects Green as the selected color sensor output voltage (figure 1, column 6, lines 29-67).

Regarding claim 15, Takashima discloses the multiplexer selects Blue as the selected color sensor output voltage (figure 1, column 6, lines 29-67).

Regarding claims 16, 18-22, claims 16, 18-22 are method claims of apparatus claims 9, 11-15, respectively. Therefore, see Examiner's comments regarding claims 9, 11-15.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUONG T. NGUYEN whose telephone number is (571)272-7315. The examiner can normally be reached on 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID L. OMETZ can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LUONG T NGUYEN/
Examiner, Art Unit 2622
11/07/09